

## **Independent Evaluation of the California High School Exit Examination (CAHSEE): AB 1609 Study Report—Volume 1**

Lauress L. Wise  
Carolyn DeMeyer Harris  
Lisa E. Koger  
Emily Dickinson Bacci  
J. Patrick Ford  
D. E. (Sunny) Sipes  
Shaobang Sun  
Milton E. Koger  
Richard C. Deatz

*Prepared for:*

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### **EXECUTIVE SUMMARY**

#### **The California High School Exit Examination**

In 1999, the California legislature passed Senate Bill (SB)-2X, a bill creating the California High School Exit Exam (CAHSEE) and requiring students to pass this exam to earn a high school diploma, beginning with the Class of 2004. The legislation specifying the requirements for the new exam also called for an independent evaluation of the CAHSEE. The California Department of Education (CDE) awarded a contract for this evaluation to the Human Resources Research Organization (HumRRO) through a competitive procurement process. As specified in EC 60854, HumRRO's efforts focus on analyses of data from the field test of items (test questions), annual administrations of the CAHSEE, and on trends in pupil performance and pupil retention, graduation, dropout, and college attendance rates. As also specified in EC 60854, reports from the evaluation include recommendations for improving the quality, fairness, validity, and reliability of the examination.

#### **AB 1609 Study Requirements**

California State Assembly Bill (AB) 1609, passed in 2001, required an additional evaluation of the extent to which the CAHSEE meets standards for development and use for the Class of 2004. AB 1609 added Section 60857 to the California Education Code specifying that the new evaluation must assess "whether the test development process and the implementation of standards-based instruction meet the standards required for a test of this nature." Thus, the new study involved two primary areas of focus:

- The test development process
- Implementation of standards-based instruction

The first topic was already being addressed in the independent evaluation conducted by HumRRO. The evaluation contract was modified to include addressing the remaining issues identified under AB-1609.

This report is being submitted to the California State Board of Education (SBE) and the Governor and state legislature in fulfillment of the AB 1609 requirements. Study questions and our approach to answering them are described in Chapter 1. Our review of the test development process is presented in Chapter 2. Chapters 3 through 5 of this report describe results and conclusions from a survey of instruction completed by principals and teachers in 298 California high schools and by principals and teachers at 173 middle-grade feeder schools for these high schools. The teacher surveys covered 3,270 high school courses and 2,006 middle-grade feeder school courses.

Information from the survey was supplemented by visits to a smaller sample of schools. Principals and teachers at each site were interviewed to elicit information to confirm and expand on the information obtained through the surveys. Interview protocols are provided in Appendix B. A total of 62 schools were visited, including 45 high schools (four of which

were charter, continuation, or alternative schools) and 17 middle-grade feeder schools. A total of 499 interviews were conducted at these schools.

Information from the CAHSEE administrations was also used in assessing standards-based instruction. Passing rates were computed for each of the state's 1,843 high schools and used in assessing the effectiveness of standards-based instruction in each high school together with its associated middle and elementary schools. This information is used extensively in Chapter 4, which discusses the effectiveness of current standards-based instruction.

The final chapter of the report summarizes main findings and discusses choices that the State Board of Education must make in deciding whether to defer the CAHSEE graduation requirement. The findings and conclusions are also summarized here.

## Main Findings

### Test Development

We reviewed all of the relevant standards published in *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 1999). These standards were developed by joint committees of the American Educational Research Association, the American Psychological Association, and the National Council for Measurement in Education. They are the most widely accepted standards for testing. Results of our review of these standards led to the first general finding:

***General Finding 1: The development of the CAHSEE meets all of the test standards for use as a graduation requirement.***

One particularly important standard is 13.5, which requires that students have adequate opportunity to learn the material covered by tests used to make important decisions about them. As described in the balance of this report, instruction in some schools was not closely aligned to the California Content Standards at the time the Class of 2004 was in grades 7 through 9. However remedial programs, providing additional opportunities to learn the required material, have been created in nearly all high schools. In the end, the Board and others must decide whether these opportunities are sufficient.

### Standards-Based Instruction

#### The Impact of the CAHSEE on Instruction

***General Finding 2. The CAHSEE requirement has been a major factor leading to dramatically increased coverage of the California Content Standards at both the high school and middle school levels and to development or improvement of courses providing help for students who have difficulty mastering these standards.***

Chapter 3 of this report describes the profound impact that the CAHSEE requirement has had on standards-based instruction. At the high school level, coverage of the California Content Standards assessed by the CAHSEE has increased steadily from 1999, when only about 20 percent of the schools reported covering at least three-quarters of the standards, to the current school year, in which more

than 80 percent of the schools reported at least 75 percent coverage. Changes to instruction are also indicated by the number of new courses started in the past 3 years, the number of existing courses that have adopted new textbooks in this time period, and the increased alignment of these courses and texts to content standards. Alignment at the middle school has shown similar improvement.

An even more important indication of the impact of the CAHSEE requirement is the number of new remedial or supplemental courses, many specifically targeting students who do not initially pass the CAHSEE. Schools have always worked to help students who did not master important standards the first time around, but the CAHSEE has expanded these efforts very considerably. New programs also include courses designed specifically for English learners and special education students. Principal and teacher interviews suggest that the CAHSEE requirement was a major factor in driving schools to increase alignment of their courses to the California Content Standards and to develop programs for students who were not mastering key standards.

### **Effectiveness of Instruction for the Class of 2004**

***General Finding 3. Available evidence indicates that many courses of initial instruction and remedial courses have only limited effectiveness in helping students master the required standards.***

Chapter 4 of this report presents evidence for the effectiveness of standards-based instruction for the Class of 2004. The general conclusion from these analyses is that instruction throughout the state has not been effective for all students, particularly in mathematics. In half of the state's high schools fewer than 50 percent of the Class of 2004 has passed the mathematics portion of the CAHSEE.

High school passing rates are closely related to the reported coverage of the CAHSEE standards in the high school curriculum. For ELA, 100 percent of schools in the survey where high levels of content coverage were implemented early (just subsequent to passage of the CAHSEE legislation) had passing rates of 75 percent or greater. In comparison, only 59 percent of schools that have not yet implemented high levels of coverage had ELA passing rates this high. For mathematics, the percentage of schools with high passing rates ranged from 100 percent for early implementers down to only 22 percent for schools that have not yet implemented high levels of alignment between curriculum and content standards.

### **Student Preparation**

***General Finding 4. Lack of prerequisite skills may prevent many students from receiving the benefits of courses that provide instruction in relevant content standards. Inadequate student motivation and lack of strong parental support may play a contributing role in limiting the effectiveness of these courses.***

Survey and interview results indicated a major reason that courses were not more effective in helping students master the required standards was inadequate student preparation. Many students participating in both initial and remedial instruction did not have essential prerequisite skills. For supplemental and remedial courses, more than half the teachers reported that most of their students did not yet have prerequisite skills; among teachers of remedial courses targeting special education students, 72 percent gave this response.

A number of other reasons for the limited effectiveness of current instruction were explored in the survey and interviews. Low student attendance and motivation were frequently cited as contributing factors. Students do not always take advantage of remedial activities that are offered, particularly summer programs. Many of the interview respondents stated that the CAHSEE requirement has had some positive influence on student motivation.

We also investigated the possible impact of teacher qualifications, defined by their credentials and years of experience, and professional development programs for the teachers on the effectiveness of standards-based instruction. There was no clear evidence that teacher qualification was an important factor. Few schools made extensive use of teachers with emergency credentials, and the majority of courses targeting English learners or special education students were taught by teachers who were experienced with these populations. There was some indication that the qualifications of mathematics teachers could be improved. Mathematics teachers had lower rates of participation in professional development targeted to teaching the standards, and as many as 25 percent of high school mathematics courses targeting special education students are being taught by teachers without appropriate credentials. In general, however, those who teach courses targeting English learners and special education students have considerable experience with these populations.

### Potential Improvements for Subsequent Classes

***General Finding 5. Many factors suggest that the effectiveness of standards-based instruction will improve for each succeeding class after the Class of 2004, but the speed with which passing rates will improve is currently unknown.***

Recent changes in standards-based instruction offer considerable hope for improved effectiveness for the Class of 2005 and beyond. Coverage of the content standards has increased at both the middle and high school levels. New, aligned textbooks have been introduced to courses at these levels. Teachers are continuing to receive professional development aimed at guiding them in teaching the content standards. The Class of 2004 did not have the advantage of most of these changes when they were in middle school. Efforts to overcome this lack have been of limited effectiveness in many high schools. Students in the Class of 2006 and beyond are receiving considerably more benefit from the adoption of textbooks aligned to the standards and of professional development efforts for teachers.

Potential improvements in the effectiveness of instruction in mathematics are particularly significant. The Algebra requirement was not adopted until students in the Class of 2004 were already in high school. Many students required extensive instruction in prerequisite skills before instruction in Algebra could be effective. Middle-grade feeder school principals report significant increases in the proportion of students taking some Algebra by the 8<sup>th</sup> grade. The full scope of the California Content Standards, from elementary through high school, has been implemented for students in more recent classes.

While the potential for improvement in the effectiveness of instruction for subsequent high school classes is great, the rate at which this improvement will lead to increased mastery of the CAHSEE standards is unknown. Current funding issues raise questions as to the extent to which schools can continue to support remedial courses and to provide training and

professional development for those who teach these courses. Initial passing rates for the Class of 2005 should be available in June 2003.

### **Recommendations**

The State Board of Education must decide by August 1, 2003 whether to continue to require students in the Class of 2004 to pass the CAHSEE in order to earn a diploma. In reaching a decision on this issue, the Board must weigh competing risks and benefits. A decision to continue the requirement will maintain the momentum for continued improvements to instruction and signal that the Board is committed to ensuring that all students achieve essential skills. Continuing the requirement will also likely lead to an intensive debate over the adequacy of instructional opportunities and fairness to specific groups within the Class of 2004. Such a debate would take time and resources away from the primary focus on educating students.

The values assigned to potential risks and benefits are matters of public policy, not of science. Therefore, we cannot recommend what the Board's decision should be. Instead, we offer several recommendations, based on findings from the study, for factors to consider in implementing either a decision to continue or a decision to defer the CAHSEE requirement for high school graduation.

### **Continuing the CAHSEE Requirement**

If the requirement is continued, what options might be considered to lessen concerns over fairness stemming from inadequate or unequal opportunities to learn the required standards? Alternatives for increasing the passing rates, providing additional ways of meeting the requirement, and providing alternatives for students who cannot earn a diploma are discussed outlined.

#### **Increasing the Passing Rate**

The Board might consider a retroactive lowering of the passing standards for the Class of 2004. For mathematics, the current standard requiring students to answer 55 percent of the questions in the initial test form correctly is already relatively low. It may not be credible to lower this rate very much further.

Another approach might be to reduce the content covered by the CAHSEE, eliminating sections giving current students the most difficulty. This option is also limited, as there are difficult questions for each different content area. In mathematics, for example, it is not just Algebra that gives students difficulty. There are difficult questions in each of the five major content strands. In addition, it would be difficult to change test content retroactively for the Class of 2004.

One other way passing rates might be increased would be to adopt a compensatory approach where achievement above the minimum in one subject could compensate for some deficiency in achievement in the other subject. For example, a total score of 700 could be required rather than requiring students to obtain scores of 350 or higher on each portion of the CAHSEE. The rationale for this approach is that students with exceptional skill in



mathematics [English-language arts] might not need as much skill in language arts [mathematics] to be successful. If this criterion had been used with the initial administration of the CAHSEE, overall passing rates would have been about 13 percent higher for most student groups.

### **Additional Ways of Demonstrating Mastery**

The Board might also give further consideration to other ways that students could demonstrate mastery of the content standards. Some states (e.g., Indiana, Massachusetts, Ohio) have policies allowing students who pass (or earn high grades in) relevant courses and complete any required remedial courses to petition for a waiver if they do not pass the graduation exam.

Some states also allow additional forms of assessment, such as evaluation of portfolios of student work, for severely handicapped students unable to take the graduation exam. A key difficulty with this approach is making sure that the same high standards are applied to passing criteria for these alternative assessments.

### **Options for Students Who Cannot Earn a Diploma**

Finally, concerns about the CAHSEE could be decreased if there were additional options for recognizing the achievement of students who are unable to meet the required standards. School districts could decide to issue alternate certificates of completion to motivate students who might be unable to reach passing levels and to recognize students who demonstrate commendable effort despite failing to master the standards or who are unable to test successfully. The legislature might consider state-wide options for recognizing levels of achievement below that required for a diploma.

### **Deferring the CAHSEE Requirement**

If the CAHSEE requirement is deferred, the biggest concern will be maintaining momentum for improved instruction in the content standards and the motivation of students to take advantage of this instruction. Options that may be considered include:

- Offering a diploma seal or certificate for students who pass the CAHSEE and/or noting satisfaction of the CAHSEE requirement on high school transcripts.
- Allowing or encouraging districts to include the CAHSEE as part of their own graduation requirements. This option might involve releasing one or more forms of the CAHSEE for district use, if testing beyond the 10<sup>th</sup> grade is not continued.
- Continuing to use the CAHSEE for school accountability in the Academic Performance Index and in meeting requirements under No Child Left Behind legislation.

The Class of 2005 has now taken the CAHSEE as 10<sup>th</sup> graders. If the requirement is deferred past the Class of 2006, the Board must decide whether to offer the CAHSEE next year at all. The current Academic Performance Index, used for accountability, and the requirements of the No Child Left Behind act dictate continued administration of the CAHSEE to 10<sup>th</sup> graders. We recommend that California continues to allow students who do



not pass the exam in the 10<sup>th</sup> grade to have subsequent opportunities to take it during the 11<sup>th</sup> and 12<sup>th</sup> grades. Such an approach would be essential to continued use for school accountability and would maximize options for use by districts in identifying students who have not mastered the required standards and recognizing those who have.



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